

**Comments on the Draft PBT Rule**  
**Chapter 173-333 WAC**  
**Submitted by Washington Toxics Coalition**  
**July 29, 2005**

**Part I - General Provisions**

**WAC 173-333-100 Introduction.**

Persistent, bioaccumulative toxins (PBTs) are chemicals that pose a unique threat to human health and the environment in Washington State. They remain in the environment for long periods of time, are hazardous to the health of humans and wildlife, build up in the food chain, can be transported long distances and readily move between air, land and water media.

Because of the unique threat that these PBTs pose, special attention is necessary to identify actions that will eliminate threats to human health and the environment. While Ecology addresses PBTs through existing regulatory and non-regulatory programs, the current, single-medium focus has produced a system that emphasizes treatment of pollution rather than preventing pollution through process/product changes. There remains a need for multi-media, cross-program measures that will reduce and eliminate releases and uses of PBTs over time.

The goal of this chapter is to reduce and eliminate the uses and releases of PBTs in Washington. Ecology recognizes that many factors will influence whether and when this goal can be attained and that those factors will often vary depending on the PBT and the uses of the PBT. This chapter establishes a process that Ecology will use to evaluate and identify actions that should be taken for particular PBTs. This process is designed to enhance actions being taken under other environmental laws and regulations.

**WAC 173-333-110 What is the purpose of this Chapter?**

(1) The purpose of this chapter is to:

- a. Establish criteria Ecology will use to identify persistent bioaccumulative toxins that pose human health or environmental impacts
- b. Establish a list of persistent bioaccumulative toxins.
- c. Establish procedures Ecology will use to review and periodically update the list;
- d. Establish criteria for selecting persistent bioaccumulative toxins for which Ecology will prepare chemical action plans;
- e. Define the scope and content of chemical action plans and establish the process Ecology will use to prepare those plans, and;

- f. Define the processes Ecology will use to coordinate the implementation of this chapter with the Department of Health and other state agencies.

### **WAC 173-333-120 Applicability**

(1) This chapter applies to the Department of Ecology (Ecology). This chapter does not impose new requirements on persons using or releasing PBTs, and it does not create new authorities nor does it constrain existing authorities for Ecology.

(2) This chapter provides for public involvement opportunities to participate in the Ecology processes for identifying PBTs and developing recommendations on measures to address uses and releases of PBTs.

### **WAC 173-333-130 Exemptions to the PBT list**

Any pesticide with a currently valid registration that has been issued by the Environmental Protection Agency under the Federal Insecticide Fungicide and Rodenticide Act, 7 U.S.C. 136 et seq., or any fertilizer regulated under the Washington Fertilizer Act, chapter 15.54 RCW, will not be included on the persistent bioaccumulative toxin list established under this chapter.

### **WAC 173-333-140 Administrative Principles**

(1) **Scientific information.** Ecology will base decisions on PBTs on sound public policy and credible scientific information. However, Ecology believes that lack of full scientific consensus should not be used as a justification for delaying reasonable measures to prevent harm to human health or the environment.

(2) **Public involvement.** Ecology will provide opportunities for public involvement during the decision-making processes for identifying PBTs and preparing a CAP.

(3) **Clear documentation.** Ecology will provide clear and understandable descriptions and rationale for decisions implementing this chapter.

(4) **Predictability.** Ecology will implement this chapter in ways that allow stakeholders, interest groups, and the public to plan their participation in decision-making processes and future responses to recommendations that result from those processes.

(5) **Coordination.** Ecology will coordinate with other state agencies and local governments, tribes, and interested parties in the development and implementation of CAPs and when revising the PBT List.

(6) **Rule Amendments.** When amending any portion of this rule, Ecology will follow the requirements of the Administrative Procedures Act (APA) – Chapter 34.05 RCW.

## PART II – Definitions

### WAC 173-333-200 Definitions

**“Administrative Procedures Act” or “APA”** means the Washington Administrative Procedures Act, RCW 34.05.

**“Bioaccumulation”** means the process by which substances increase in concentration in living organism as they take in contaminated air, water, soil, sediment or food because the substances are very slowly metabolized or excreted.

**“Bioaccumulation factor” or “BAF”** means the ratio of the concentration of a chemical in an organism to the concentration of the chemical in the surrounding environment. The BAF is a measure of the extent to which the organism accumulates the chemical as a result of uptake through ingestion as well as contact from contaminated media, such as water.

**“Bioconcentration factor” or “BCF”** means the ratio of the concentration of a chemical in an organism to the concentration of the chemical in the surrounding environment. The BCF is a measure of the extent of chemical partitioning between an organism and the surrounding environment.

**“Chemicals”** means a naturally occurring element, mixture, or group of organic and inorganic compounds that is produced by or used in a chemical process.

**“Chemical group”** means a grouping of chemicals which share a common chemical structure.

**“Chemical Action Plan” or “CAP”** means a plan to reduce and eliminate PBTs from the environment that identifies, characterizes and evaluates uses and releases of a specific PBT or a group of PBTs and recommends actions Washington state should take to protect human health and the environment.

**“Credible Scientific Information”** means information that is based on a theory or technique that is generally acceptable in the relevant scientific community, has been collected or derived using generally accepted methods and protocols and appropriate quality assurance and control procedures, or has been published in a peer-reviewed scientific journal.

**“Cross-media Transfer of Chemicals”** means the movement of a chemical from one medium, such as air, water, soil, or sediment, to another.

**“Degradation”** means the processes by which organic chemicals are transformed into derivative chemicals and ultimately broken down.

**“Ecology”** means the Department of Ecology.

**“Environment”** means any plant, animal, natural resource, surface water (including underlying sediments), ground water, drinking water supply, land surface (including tidelands and shorelands) or subsurface strata, or ambient air.

**“Environmental half-life”** means the time required for the concentration of a chemical to diminish to half its original value. The environmental half-life of a chemical is a measure of a chemical’s persistence in the environment.

**“Feasible”** means capable of being accomplished or brought about or capable of being utilized or dealt with successfully.

**“High-exposure populations”** means groups of people that are at greater risk because they have a higher potential for exposure than the general population.

**“Log-octanol water partition coefficient” or “Log K<sub>ow</sub>”** means the ratio of a chemical's concentration in the octanol phase to its concentration in the aqueous phase of a two-phase octanol/water system as expressed in a logarithmic format.

**“Media or Medium”** means a component of the environment (air, water, soil or sediment) in which a contaminant is measured and an organism lives its life, and from which an organism can accumulate contaminants.

**“Persistent bioaccumulative toxin” or “PBT”** means a chemical or chemical group that meets or exceeds the criteria for persistence, bioaccumulation and toxicity criteria established in WAC 173-333-3320.

**“Persistence”** means the tendency of a chemical to remain in the environment without transformation or breakdown into another chemical form. It refers to the length of time a chemical is expected to reside in the environment and be available for exposure.

**“Sensitive Population Group”** means groups of people that exhibit an enhanced response to a chemical than most people exposed to a similar level of the chemical because of genetic makeup, age, nutritional status or exposure to other toxic substances.

**“Toxicity”** means the degree to which a substance or mixture of substances can harm humans, plants or wildlife.

## **Part III – The PBT List and Criteria and Procedures for Revising the List**

### **WAC 173-333-300 What is the purpose of the PBT List?**

(1) **Purpose.** The purpose of the PBT List is to identify toxic chemicals that require further action because they remain (“persist”) in the environment for long periods of time where they can bioaccumulate to levels that pose threats to human health and environment.

(2) **Intended uses of the PBT List.** Ecology will use the PBT List in the following ways:

a. **Chemical action plans.** To identify chemicals for which chemical action plans will be developed.

b. **Ambient monitoring.** To help guide decisions on the design and implementation of Ecology programs for characterizing chemical concentrations in the ambient environment.

c. **Biomonitoring.** To encourage and inform the Department of Health regarding their efforts to monitor chemicals in human tissue.

d. **Public awareness.** To promote greater public awareness on the problems associated with PBT chemicals, the uses and sources of individual PBTs and steps that individuals and organizations can take to reduce PBT uses, releases and exposure.

e. **Voluntary measures.** To help identify opportunities for government agencies, businesses and individuals to implement voluntary measures for reducing and phasing out PBT uses and releases.

g. **Improve Regulatory and Non-Regulatory Approaches:** Ecology and Health will use the list to inform efforts to maximize the effectiveness of regulatory and non-regulatory approaches for phasing out the use and production of PBTs, including improving collaboration among regulatory programs and improving regulatory and economic incentives for eliminating PBTs. .

h. **Clean up PBTs from historical sources:** Ecology and Health will use the list to increase focus on PBTs found at contaminated sites and enhance efforts to clean up sediment contamination problems.

i. **Prevent new sources of PBTs.** Ecology will use the list to enhance efforts to prevent the use and release of PBTs from new industrial and commercial sources and to encourage extended product responsibility for new sources and products.

j. **Build partnerships.** Ecology and Health will use the list to promote efforts to eliminate PBTs and coordinate with other jurisdictional programs,

### **WAC 173-333-310 What chemicals or chemical groups are included on the PBT List?**

(1) **Purpose.** This section identifies the chemicals and chemical groups that Ecology has determined meet the criteria specified in WAC 173-333-320.

(2) **PBT List.** Ecology has determined that the following chemicals or chemical groups meet the criteria specified in WAC 173-333-320.

Aldrin/Dieldrin 309-00-2/60-57-1  
 \*Cadmium 7440-43-9 (a)  
 Chlordane 57-74-9  
 Chlordecone (Kepone) 3734-48-3  
 DDT, p,p'- 50-29-3  
 Endrin 72-20-8  
 Heptachlor/Heptachlor epoxide 76-44-8/1024-57-3  
 Hexabromobiphenyl 36355-01-8  
 Hexabromocyclododecane 25637-99-4  
 Hexachlorobenzene 118-74-1  
 Hexachlorobutadiene 87-68-3  
 \*Lead 7439-92-1 (b)  
 Mercury 7439-97-6  
 Mirex 2385-85-5  
 Perfluorooctane sulfonates (PFOS) (c)  
 Pentachlorobenzene 608-93-5  
 Polycyclic aromatic hydrocarbons (PAHs) (d)  
 Polybrominated dibenzo-p-dioxins and dibenzofurans  
 (PBDD/PBDF) (e)  
 Polybrominated diphenyl ethers (PBDEs) (f)  
 Polychlorinated biphenyls (PCBs) 1336-36-3  
 Polychlorinated dibenzo-p-dioxins and dibenzofurans  
 (PCDD/PCDF) (g)  
 Polychlorinated naphthalenes (PCN) 70776-03-3 (h)  
 Short-chain chlorinated paraffins (SSCP) 85535-84-8 (i)  
 Tetrabromobisphenol A 79-94-7  
 Tetrachlorobenzene, 1,2,4,5- 95-94-3  
 Toxaphene 8001-35-2

(3) **Categories.** Ecology will assign each chemical on the PBT List to one of the following three categories:

- a. **Category 1:** Ecology will place chemicals in this category if the department determines that the chemical is used, released or present in Washington.
- b. **Category 2:** Ecology will place chemicals in this category if the department determines that there is insufficient information to reach a conclusion on whether the chemical is used, released or present in Washington.
- c. **Category 3:** Ecology will place chemicals in this category if the department determines that (i) all uses and releases of the chemical are prohibited under other state or federal laws or regulations or (ii) there are no feasible measures for reducing or phasing out uses and releases of the chemical beyond levels required under other federal and state laws and regulations, or (iii) is not present in Washington's environment.

(4) **Revising the PBT List.** At least every three years, Ecology will review and, as appropriate, revise the PBT List in subsection (2) using the criteria and procedures in WAC 173-333-320

through -340.

### **WAC 173-333-320 What criteria will Ecology use to identify and add chemicals or chemical groups to the PBT List?**

(1) **Purpose.** This section describes the criteria that Ecology will use to determine whether a chemical or group of chemicals should be included on the PBT List.

(2) **Criteria for identifying PBTs.** A chemical or group of chemicals will be included on the PBT List if Ecology determines it meets each of the following criteria:

- a. **Persistence.** The chemical or chemical group can persist in the environment based on evidence that:
  - i. The half-life of the chemical in water is greater than or equal to sixty (60) days; or
  - ii. The half-life of the chemical in soil is greater than or equal to 60 days; or
  - iii. The half-life of the chemical in sediments is greater than or equal to 60 days; and
- b. **Bioaccumulation.** The chemical or chemical group has a high potential to bioaccumulate based on evidence that the bioconcentration factor or bioaccumulation factor in aquatic species for the chemical is greater than 1000 or, in the absence of such data, that the logoctanol water partition coefficient (log  $K_{ow}$ ) is greater than five (5); and;
- c. **Toxicity.** The chemical or chemical group has the potential to be toxic to humans or plants and wildlife based on evidence that:
  - i. The chemical or a chemical group is known to cause or can reasonably be anticipated to cause cancer or teratogenic effects, reproductive effects, neurological disorders or other acute or chronic health effects; or
  - ii. The chemical or chemical group is known to cause or can reasonably be anticipated to cause adverse effects in aquatic and terrestrial plants and animals.
- d. **Alternative criteria applicable to metals:** If no criteria are available on bioaccumulation, then there is evidence that the chemical accumulates in animals or humans.

(3) **Degradation products.** Ecology will consider both the chemical and its degradation products when making decisions on whether a chemical meets the criteria in subsection (2) of this section. If a chemical does not meet the criteria in this section for a PBT but degrades into chemicals that do meet the criteria in this section for a PBT, the parent chemical will be considered in the development of a CAP for those derivative chemicals.

### **WAC 173-333-330 What criteria will Ecology use to remove a PBT from the PBT List?**

**(1) Purpose.** This section describes the criteria and factors Ecology will use to determine whether a chemical or group of chemicals should be removed from the PBT List.

**(2) Criteria for removing a chemical from the PBT list.** Ecology will remove a chemical or chemical group from the PBT List if the department determines that credible scientific information developed subsequent to the listing decision provides evidence that the chemical or chemical group does not meet the PBT criteria in WAC 173-333-320(2).

### **WAC 173-333-340 What process would Ecology follow to revise the PBT List?**

**(1) Purpose.** This section describes the processes Ecology will use to notify the public and amend the PBT list after making a determination that chemicals or groups of chemicals should be added or removed from the PBT List.

**(2) Reviewing and updating the PBT list:** Ecology will review and update WAC 173-333-310 at least every three years. The frequency of review will be determined by credible scientific information available on individual chemicals or chemical groups, rulemaking petitions submitted to Ecology, and available agency resources. Ecology will comply with the requirements for reviewing and responding to rulemaking petitions in the Administrative Procedures Act, Chapter 34.05 RCW.

**(3) Public notification.** If Ecology makes a preliminary determination that a chemical should be added or removed from the PBT List, it will notify the public through an announcement posted on the Ecology website and published in the state register.

**(4) Amending the PBT List.** If Ecology makes a final determination that a chemical or chemical group should be added or removed from the PBT List, the department will initiate actions to amend WAC 173-333-310 through formal rulemaking.

## **Part IV - Chemical Action Plans (CAPs)**

### **WAC 173-333-400 What is a chemical action plan (CAP)?**

**(1)** A chemical action plan (CAP) is a plan to reduce and eliminate PBTs from the environment that identifies, characterizes and evaluates uses and releases of a specific PBT or a group of PBTs and recommends actions Washington state should take to protect human health and the environment.

**(2)** CAPs will include recommendations for:

- a. Reducing and eliminating uses and releases of the specific PBT or group of PBTs



addressed in the CAP;

- b. Properly disposing of products or waste that contain the specific PBT or group of PBTs addressed in the CAP;
- c. Actions individuals can take to minimize their exposure to the specific PBT or group of PBTs;
- d. Collecting additional information needed to evaluate the feasibility of potential actions; and
- e. Measuring or monitoring the effectiveness of actions being implemented in Washington.
- f. Developing markets for less toxic alternatives.

### **WAC 173-333-410 What evaluation factors and processes will Ecology use to select PBTs for chemical action plan preparation?**

(1) **Purpose.** The purpose of this section is to describe the evaluation factors and processes Ecology will use to decide when to develop a chemical action plan for a particular chemical or group of chemicals included on the PBT list.

(3) **Decision-making process:** Ecology will consult with the Department of Health to develop a three-year schedule for the preparation of chemical action plans. The schedule shall outline the chemicals for which chemical action plans will be prepared, the timeline for completing the plans, and the rationale for selecting each chemical. The schedule will provide for the completion of no less than two chemical action plans each year. The process for deciding when to prepare a chemical action plan for a particular chemical or group of chemicals includes the following:

- a. **Selection factors.** Ecology will consider the following factors when deciding whether to prepare a chemical action plan for a particular chemical or group of chemicals identified in WAC 173-333-310(2):
  - i. **Relative ranking.** The relative ranking assigned to each PBT based on Ecology's evaluation of information on PBT characteristics, uses of the chemical in Washington, releases of the chemical in Washington, and the levels of the chemical present in the Washington's environment and people.
  - ii. **Opportunities for reductions.** Whether there are opportunities for reducing or phasing out uses, production or releases of the PBT in Washington. In reviewing available information, the agencies shall consider whether more than one PBT is present in particular products, generated in particular processes or released from particular sources (co-occurring chemicals).

- iii. Multiple chemical releases and exposures. Scientific evidence on the combined effects of exposure to one or more PBTs and other substances commonly present in the Washington environment.
  - iv. Sensitive population groups and high-exposure populations. Scientific evidence on the susceptibility of various population groups including the timing of the exposure and the cumulative effects of multiple exposures.
  - v. Existing plans or regulatory requirements. Whether there are existing plans or regulatory requirements that have been effective in reducing and phasing-out uses and releases of a particular PBT or group of PBTs.
- b. **Preliminary selection.** Ecology will prepare a written preliminary three-year schedule for the preparation of chemical action plans and the rationale for selecting three particular PBT or group of PBTs.
- c. **Public notice and comment.** Ecology will notify the public when it completes the preliminary schedule and provide an opportunity for public review and comment. Ecology will notify the public through an announcement published in the Washington state register and posted on the Ecology website. Ecology will also send a written announcement to interested persons and organizations. Ecology will provide sixty days, from the date the notice is published in the Washington state register for the public to review and submit comments on the preliminary schedule.
- d. **Final decision.** Ecology will review all public comments on the preliminary schedule prior to making a final decision to prepare chemical action plans. Ecology will notify the public of the final schedule through an announcement published in the Washington state register and posted on the Ecology website. Ecology will also provide written notification to individuals or organizations who submitted comments on the preliminary selection.
- e. **Schedule updates.** Ecology will update the schedule for chemical action plans at least every three years and will follow the process specified in this section.

## **WAC 173-333-420 What are the contents of a CAP?**

**(1) Contents of the chemical actions plans:** Chemical action plans will include, as appropriate, the following types of information, evaluations and recommendations:

- a. **General chemical information.** General information including, , chemical name, properties, uses and manufacturers.
- b. **Production, Uses and Releases.** An analysis of information on the production, unintentional production, uses and disposal of the chemical. This will include estimates on the amount of each PBT used and released from all sources or activities in Washington and other sources that may contribute to exposures in Washington. Sources may include other chemicals or products that are known or

suspected to degrade to the chemical included on the PBT List.

- c. **Human health and environmental impacts.** Information on the potential impacts on human health and the environment associated with the use and release of the PBT chemical. This will include information on the levels of the PBTs present in Washington's environment, the likely fate and transport mechanisms, available body-burden data, toxicity effects, and the rates of diseases that have been associated with exposure to the particular PBT.

COMMENTS: An evaluation of the health and environmental impacts is not necessary as part of the CAP. If a chemical is on the list and eligible for a CAP, then the chemical has already been determined to be harmful to human health and the environment. Further analysis is not warranted and will only waste time on a debate about whether a chemical is a problem. We recommend requiring information on the health and environmental impacts instead of requiring an evaluation.

- d. **Current management approaches.** An evaluation of the regulatory and non-regulatory approaches that influence production, uses, releases and management of each PBT.
- e. **Alternatives.** An analysis of the alternatives available to the chemical.
- e. **Analysis of policy options.** An analysis of policy options for addressing each PBT. In conducting the analysis, the department reduction and elimination options, including any material, process or function substitutions that could be implemented to replace the chemical.
  - i.
- f. **Recommendations for reducing and eliminating the chemical:** The recommendations will include:
  - i. Recommendations on actions to reduce and eliminate the uses and releases of the PBT addressed in the CAP. The recommendations may include proposals for further information collection, monitoring, and regulatory action. The recommendations will be based on an evaluation of the following factors:
    - (A) Availability of alternatives. Whenever safer alternatives for a particular use are identified, the recommendation shall be to eliminate the chemical for that particular use. If a safer alternative is not available, then the recommendation shall be to conduct additional research on potential alternatives and provide incentives for those businesses actively involved in researching potential alternatives. The department shall re-evaluate the availability of alternatives at least every two years after the issuance of the CAP;

- (B) Environmental and human health benefits associated with implementing the action;
  - (C) Economic and social impacts associated with implementing the action; and
  - (D) Consistency with existing federal and state regulatory requirements.
- ii. A description of the steps Ecology will take to implement the CAP, including a description of:
  - (A) The existing resources and necessary additional budget Ecology intends to use;
  - (B) Potential funding sources for CAP implementation, including those that tie implementation costs to PBT sources and products.
  - (C) How Ecology intends to inform and educate affected persons about the CAP; and
  - (D) How Ecology will promote and assist voluntary actions, including timelines for implementation of the voluntary action, performance measures, and alternative reduction and mandatory actions if the voluntary action is not successful.
  - (E) How Ecology will pursue further regulatory actions identified in the plan.
- iii. **Performance Measures:** A description of interim milestones to assess progress and the use of objectively measurable outcomes, including recommendations for environmental and human health monitoring to measure levels of the chemical(s) over time.
- g. **Other:** Other information that Ecology determines is necessary to support the decisionmaking process.

**(2) Regulatory consistency:** When evaluating the consistency with existing federal and state regulatory requirements under subsection (1)(f)(i)(D) above, Ecology will:

- a. Determine if the recommendations differ from federal regulations and statutes, and if so, explain why the difference is necessary and whether Ecology will

coordinate with other federal, state, and local laws applicable to the same activity or subject matter.

**(3) Economic analyses.**

**WAC 173-333-430 What process will Ecology use to develop CAPs?**

**(1) Purpose.** The purpose of this section is to identify the process Ecology will use to develop CAPs.

(1) Ecology will prepare two final CAPs per year.

**(2) Workplan/Scoping.** Once a chemical is selected for CAP development, Ecology will initially plan and scope the CAP of the selected chemical based upon available information regarding the chemical's products, uses and releases; human health exposure and ecological hazards; environmental releases, fate, and transport; environmental concentrations and available substitutes; available options for managing uses and releases; estimated costs, benefits and effectiveness of alternate management options; and any other information Ecology determines is necessary to support the CAP development process. Ecology will consult with the Department of Health regarding all portions of the CAP related to human health exposures.

**(3) Advisory Committee.** Ecology will create an external advisory committee for each CAP that Ecology develops. The purpose of the advisory committee is to provide stakeholder input and expertise.

a. The advisory committee membership will include, but not be limited to representatives from: large and small business sectors, community, environmental and public health advocacy groups, local governments, and public health agencies. When appropriate, representatives from the following groups will also be invited to participate: agricultural groups, worker safety advocacy groups, and other interested parties. Federally recognized tribal governments will also be encouraged to participate. In addition, representation from other state executive agencies may be requested to provide input and to represent agency interests in the CAP development process. Outside experts (if needed) may be requested to provide technical expertise.

b. A neutral-third party facilitator may be hired to facilitate advisory committee meetings.

c. The advisory committee will follow a consultative process, where Ecology will draft the CAP in consideration of input from Advisory Committee members.

d. All advisory committee meetings will be open to the public. Ecology will notify the public of advisory committee meetings through an announcement posted on the Ecology web site and written notification to interested individuals and organizations.

**(4) Information Collection Phase:** Ecology will collect all necessary and up-to-date

information regarding the selected chemical. CAP Advisory committee members will be asked to contribute, and as appropriate, review information from Ecology during this phase of CAP development. The Department of Health will be asked to review any information related to human health.

**(5) Draft Recommendations:** Ecology will develop a draft CAP for advisory committee review and comment. Ecology will review all advisory committee comments and, as appropriate, revise the draft CAP prior to distributing it for public review and comment.

**(6) Public Review and Comment:** Ecology will notify the public when it has developed a draft CAP and provide an opportunity for public review and comment. The public comment period for each draft CAP will be a minimum of 60 days. Ecology will notify the public through an announcement posted concurrently on the Ecology website, a notice in the Washington State Register, and sent to interested persons and organizations. The comment period shall start from the date the notice is published in the Washington State Register. During the comment period, Ecology will hold a minimum of two public meetings on the draft CAP. One meeting shall be held on the western side of the state, and one meeting shall be held on the eastern side of the state. Ecology may hold additional public meetings during the public comment period if determined necessary. Ecology will provide a response to all public comments.

**(7) Final Recommendations:** Ecology will review all public comments on the draft CAP prior to issuing the final recommendations. Ecology will notify the public of the final recommendations through an announcement that will be published in the state register and posted on the Ecology website. Ecology will also provide written notification to individuals or organizations who submitted comments on the draft CAP.

**(8) Coordination with other agencies.** Ecology will coordinate with other government agencies and interested parties as appropriate on the implementation of the final CAP. Ecology will consult with the Department of Health on public information materials addressing food safety issues.

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#### **Explanatory Notes Regarding Specific Chemicals on the PBT List (WAC 173-333-310)**

a. **Cadmium:** Ecology has concluded that cadmium meets the criteria for persistence, bioaccumulation and toxicity in WAC 173-333-320(2). However, Ecology has not completed its review of information relevant to making a determination on whether cadmium is “...likely to be present in forms that are bioavailable...”(WAC 173-333-320(2)(d)). Ecology intends to complete that review and make a determination on whether to include cadmium on the PBT list prior to distributing the proposed rule for public review and comment.

b. **Lead:** Ecology has concluded that lead meets the criteria for persistence, bioaccumulation and toxicity in WAC 173-333-320(2). However, Ecology has not completed its review of information relevant to making a determination on whether lead is “...likely to be present in forms that are bioavailable...” (WAC 173-333-320(2)(d)). Ecology intends to complete that review and make a determination on whether to include lead on the PBT list prior to distributing the proposed rule for public review and comment.

c. **Perfluorooctane sulfonates (PFOS):** PFOS (Molecular formula  $C_8F_{17}SO_3$ ) is a member of a group of organic compounds that consists of an eight-carbon chain where the hydrogen atoms have been substituted with fluorine atoms and a reactive sulfonate group at one end of the chain. Ecology has determined that PFOS meets the draft PBT criteria in WAC 173-333-320(2). PFOS derivatives and salts include: acid (CAS 1763-32-1); ammonium salt (CAS 29081-56-9); diethanolamine salt (CAS 70225-14-8); lithium salt (CAS 29457-72-5); and potassium salt (CAS 2795-39-3).

d. **Polycyclic aromatic hydrocarbons (PAHs):** PAHs are a group of compounds composed of two or more fused aromatic rings. Ecology has determined that the following PAH compounds meet the draft PBT criteria in WAC 173-333-320(2): dibenzo(a,h)anthracene (CAS 53-70-3); 3-methylcholanthrene (CAS 56-49-5); benzo(r,s,t)pentaphene (CAS 189-55-9); dibenzo(a,h)pyrene (CAS 189-64-4); benzo(g,h,i)perylene (CAS 191-24-2); dibenzo(a,e)pyrene (CAS 192-65-4); indeno(1,2,3-cd)pyrene (CAS 193-39-5); 7Hdibenzo(c,g)carbazole (CAS 194-59-2); perylene (CAS 198-55-0); benzo(j)fluoranthene (CAS 205-82-3); benzo(b)fluoranthene (CAS 205-99-2); fluoranthene (CAS 206-44-0); benzo(k)fluoranthene (CAS 207-08-9); benzo(a)phenanthrene (CAS 218-01-9); dibenzo(a,j)acridine (CAS 224-42-0); and dibenzo(a,h)acridine (226-36-8).

e. **Polybrominated dibenzo-p-dioxins and dibenzofurans (PBDDs/PBDFs):** PBDDs/PBDFs consist of two groups of tricyclic aromatic compounds with similar chemical and physical properties. Ecology has determined that the following PBDD/PBDF congeners meet the draft PBT criteria in WAC 173-333-320(2): 2,3,7,8-tetrabromodibenzo-p-dioxin (CAS 50585-41-6); and 2,3,7,8-tetrabromodibenzofuran (CAS 67733-57-7).

f. **Polybrominated diphenyl ethers (PBDEs):** PBDEs are a class of chemicals with the general chemical formula of  $C_{12}H_{(9-0)}Br_{(1-10)}O$  with the sum of H and Br atoms always equal to 10. There are theoretically 209 congeners which can be divided into 10 congener groups (mono- through decabromodiphenyl ethers). Ecology has determined that the following congener groups meet the draft PBT criteria in WAC 173-333-320(2) and/or degrade to congeners that meet the draft PBT criteria in WAC 173-333-320(2): pentabromodiphenyl ether (CAS 32534-81-9); octabromodiphenyl ether (CAS 32536-52-0); decabromodiphenyl ether (CAS 13654-09-6).

g. **Polychlorinated dibenzo-p-dioxins and dibenzofurans (PCDDs/PCDFs):** PCDDs/PCDFs consist of two groups of tricyclic aromatic compounds with similar chemical and physical properties. Ecology has determined that the following PCDD/PCDF congeners meet the draft PBT criteria in WAC 173-333-320(2): 2,3,7,8-tetrachlorodibenzo-p-dioxin (CAS 1746-01-6); 1,2,3,7,8-pentachlorodibenzo-p-dioxin (CAS 40321-76-4); 1,2,3,4,7,8-hexachlorodibenzo-p-dioxin (CAS 39227-28-6); 1,2,3,6,7,8-hexachlorodibenzo-p-dioxin (CAS 576-53-8); 1,2,3,7,8,9-hexachlorodibenzo-p-dioxin (CAS 19408-74-3); 1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin (CAS 35822-46-9); 1,2,3,4,6,7,8,9-octachlorodibenzo-p-dioxin (CAS 3268-87-9); 2,3,7,8-tetrachlorodibenzofuran (CAS 51207-31-9); 1,2,3,7,8-pentachlorodibenzofuran (CAS 57117-41-6); 2,3,4,7,8-pentachlorodibenzofuran (CAS 57117-41-4); 1,2,3,4,7,8-hexachlorodibenzofuran (CAS 70648269); 1,2,3,6,7,8-hexachlorodibenzofuran (CAS 57117-44-9); 1,2,3,7,8,9-hexachlorodibenzofuran (CAS 72918-21-9); 2,3,4,7,8,9-hexachlorodibenzofuran

(CAS 60851-34-5); 1,2,3,4,6,7,8-heptachlorodibenzofuran (CAS 67562-39-4); 1,2,3,4,7,8,9-heptachlorodibenzofuran (CAS 55673-89-7); 1,2,3,4,6,7,8,9-octachlorodibenzofuran (CAS 39001-02-0).

**h. Polychlorinated naphthalenes (PCN):** PCNs are a group chlorinated naphthalenes that contain 1 to 8 chlorine atoms and are structurally similar to PCBs. Ecology has determined that the following compounds meet the draft PBT criteria in WAC 173-333-320(2):

heptachloronaphthalene (CAS 32241-08-0); hexachloronaphthalene (CAS 1335-87-1); pentachloronaphthalene (CAS 1321-64-8); tetrachloronaphthalene (CAS 1335-88-2); and trichloronaphthalene (CAS 1321-65-9)

**i. Short-chain chlorinated paraffins (SSCP):** SSCPs are chlorinated derivatives of n-alkanes that have carbon chains ranging from 10 to 13 carbon atoms and a chlorine content ranging from 50-70% by weight. Ecology has determined that SSCPs meet the draft PBT criteria in WAC 173-333-320(2).